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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MEW, KEVIN D	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/784,914	HWANG ET AL.
	Examiner	Art Unit
	Kevin Mew	2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,8,9,15 and 16* is/are rejected.

7)☒ Claim(s) *4-7,10-14 and 17-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/29/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Action

Response to Amendment

1. Applicant's arguments filed on November 29, 2004 regarding claims 1-19 have been considered.

2. Acknowledgement is made of the amended specification with respect to the deficiencies cited in the drawings of the previous Office Action. The corrections are acceptable and the objection to the drawings has been withdrawn.

3. Acknowledgement is made of the amended claims 3 and 12 with respect to the deficiencies cited in the claim objections of the previous Office Action. The corrections are acceptable and the claim objections have been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 3, 8, 15** are rejected under 35 U.S.C. 102(e) as being anticipated by Parsa et al. (USP 6,643,318).

Regarding claim 1, Parsa discloses a method for assigning a channel to a UE (user equipment) by a UTRAN (UMTS (Universal Mobile Telecommunications System) Terrestrial Radio Access Network) in a CDMA (Code Division Multiple Access) communication system (**CDMA network**, see lines 10-12, col. 4 and Fig. 7), the method comprising the steps of:

receiving a access preamble signature from the UE (**base station receives a particular access preamble from a mobile station**, see lines 20-37, col. 5); and

selecting one of a plurality of channel assignment signatures associated (**mobile station selects a collision detection signatures from a predetermined set of possible CD signatures**, see lines 51-54, col. 5) with the received access preamble signature (**based on the access preamble received at the base station from the mobile station**, see lines 35-39, and lines 51-54, col. 5) in order to assign one of a plurality of physical common packet channels (PCPCHs) unused in the UTRAN (**base station effectively assigns the requested CPCH channel to only one of the contending mobile stations by responding a AP-AICH acknowledgement (containing CPCH channel availability information) to the mobile station and the mobile**

station seizes the idle CPCH channel for transmission of one or more packets, see lines 14-25, col. 9, land ines 31-36, col. 10; note that CPCH is carried by the Physical CPCH, see lines 9-10, col. 6).

Regarding claim 3, Parsa discloses the method as claimed in claim 1, further comprising the step of selecting one of the PCPCHs unused in the UTRAN (**mobile station captures the available CPCH channel**, see lines 11-12, col. 10) depending on the received access preamble signature (**based on the access preamble received at the base station from the mobile station**, see lines 11-20, col. 10) and the selected channel assignment signature (**collision detection signature will be selected by the mobile station upon receiving AP-AICH acknowledgement and hence the selected CPCH channel**, see lines 30-47, col. 10) for receiving a packet data from the UE.

Regarding claim 8, Parsa discloses a method for assigning a channel to a UE (user equipment) by a UTRAN (UMTS (Universal Mobile Telecommunications System) Terrestrial Radio Access Network) in a CDMA (Code Division Multiple Access) communication system (**CDMA network**, see lines 10-12, col. 4 and Fig. 7), the method comprising the steps of:

receiving a access preamble signature from the UE (**base station receives a particular access preamble from a mobile station**, see lines 20-37, col. 5); and

determining a specific channel assignment signature from a plurality of channel assignment signatures (**mobile station selects a collision detection signatures from a predetermined set of possible CD signatures**, see lines 51-54, col. 5) so as to select one of a

plurality of unused PCPCHs (physical common packet channels) (**mobile station captures the available CPCH channel**, see lines 11-12, col. 10; note that CPCH is carried by the Physical CPCH, see lines 9-10, col. 6) depending on the received access preamble signature (**based on the access preamble received at the base station from the mobile station**, see lines 11-20, col. 10) and a channel assignment signature (**collision detection signature will be selected by the mobile station upon receiving AP-AICH acknowledgement and hence the selected CPCH channel**, see lines 30-47, col. 10).

Regarding claim 15, Parsa discloses a method for assigning a channel in a UE (user equipment) for a CDMA (Code Division Multiple Access) communication system (**CDMA network**, see lines 10-12, col. 4 and Fig. 7), comprising the steps of:

upon generation of data to be transmitted over a PCPCH channel, selecting one of a plurality of access preamble signatures and transmitting the selected access preamble signature to a UTRAN (**mobile station transmits a particular access preamble from a set of predefined access preambles to a base station**, see lines 19-26, col. 5);

receiving a selected one of a plurality of channel assignment signatures from the UTRAN (**mobile station selects a collision detection signatures from a predetermined set of possible CD signatures**, see lines 51-54, col. 5); and

determining a PCPCH channel for transmitting the data depending on the selected access preamble signature (**based on the access preamble received at the base station from the mobile station**, see lines 11-20, col. 10) and the received channel assignment signature

(collision detection signature will be selected by the mobile station upon receiving AP-AICH acknowledgement and hence the selected CPCH channel, see lines 30-47, col. 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 2, 9, 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Parsa.

Regarding claims 2, 9, 16, Parsa discloses all the aspects of the claimed invention set forth in the rejection of claim 1, claim 8, and claim 15, respectively, except fails to explicitly show that the UTRAN selects one of the channel assignment signatures depending on a maximum data rate required when the UE transmits data. However, Parsa discloses various rates are mapped to different signature sequences (see lines 33-34, col. 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the collision detection signature technique of Parsa such that the collision signature would be selected based on the maximum data rate required when the mobile station transmits data. The motivation to do so is to allow capacity demands in response to demand for capacity from mobile stations because higher bit rate would be required to support services such as real-time conversations and streaming.

Response to Arguments

6. Applicant's arguments filed on 11/29/2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "UTRAN participates in the assignment of the CPCHs") in the rejected claim 1 is indeed disclosed by the Parsa reference. In particular, Parsa discloses base station BS assigns the requested CPCH channel to one of the contending mobile stations during the channel assignment phase (see col. 10, lines 33-36), which clearly indicates that the base station directly participates in an assignment of a CPCH. Furthermore, it is not clear to the Examiner on how the Applicant's argument, "configurations assign the CPCHs by signatures included in the respective access preamble and collision detection preamble transmitted from a base station to a mobile station" would indicate the base station does not participate in the assignment of a CPCH. In addition, the quoted citation cannot be found in step 10, Fig. 10 as indicated by the Applicant. Therefore, claims 1, 8, and 15 remain rejected under 35 U.S.C. 102(e) as being anticipated by Parsa et al.

Allowable Subject Matter

7. Claims 4-7, 10-14, 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 4, the method as claimed in claim 3, wherein the PCPCH selecting step comprises the steps of:

determining a number P_{SF} of PCPCHs capable of supporting a maximum data rate required when the UE transmits data out of the unused PCPCHs;

determining a number S_{SF} of access preamble signature available for the maximum data rate required when the UE transmits data;

determining a number T_{SF} of channel assignment signatures available for the maximum data rate depending on the number P_{SF} of the PCPCHs;

calculating a minimum positive number M_{SF} out of positive numbers which are

determined to have a remainder of '0' when multiplying the number S_{SF} of the access preamble signatures by a given positive number and dividing the multiplied value by the number P_{SF} of the PCPCHs;

calculating a specific coefficient 'n' satisfying the following equation

$$n*M_{SF}*S_{SF} <= i+j*S_{SF} < (n+1)*M_{SF}*S_{SF}$$

where i denotes an access preamble signature number and j denotes a channel allocation message number; and

selecting one PCPCH's number 'k' out of the PCPCHs unused in the UTRAN by satisfying the following equation

$$k= \{[(i+n) \bmod S_{SF}]+j*S_{SF}\} \bmod P_{SF}.$$

In claim 6, the method as claimed in claim 1, wherein the channel assignment signature (j) is selected by satisfying following equation;

$$n*M_{SF}*S_{SF} <= i+j*S_{SF} < (n+1)*M_{SF}*S_{SF}$$

where, i is number of the access preamble signature, the S_{SF}: is a number of access preamble signatures assigned for the maximum data rate determined by the access preamble signature, the M_{SF} is a minimum positive number (M_{SF}) out of positive numbers which are determined to have a remainder of '0' when multiplying the number S_{SF} by a given positive number and dividing the multiplied value by a number P_{SF}. representing number of PCPCHs assigned to support the maximum data rate, the n indicates how many tunes a period of M_{SF} has been repeated.

In claim 10, the method as claimed in claim 9, wherein the channel assignment signature (j) is selected by satisfying following equation;

$$n*M_{SF}*S_{SF} <= i+j*S_{SF} < (n+1)*M_{SF}*S_{SF}$$

where i is number of the access preamble signature, the S_{SF} is a number of access preamble signatures assigned for the maximum data rate determined by the access preamble signature, the M_{SF} is a minimum positive number (M_{SF}) out of positive numbers which are determined to have a remainder of '0' when multiplying the number S_{SF} by a given positive number and dividing the multiplied value by a number P_{SF} representing number of PCPCHs assigned to support the maximum data rate and the n indicates how many times a period of M_{SF} has been repeated.

In claim 13, the method as claimed in claim 9, wherein the PCPCH selecting step comprises the steps of:

determining a number P_{SF} of PCPCHs capable of supporting a maximum data rate required when the UE transmits data out of the unused PCPCHs;

determining a number S_{SF} of access preamble signatures available for the maximum data rate required when the UE transmits data;

determining a number T_{SF} of channel assignment signatures available for the maximum data rate depending on the number P_{SF} of the PCPCHs;

calculating a minimum positive number M_{SF} out of positive numbers which are determined to have a remainder of '0' when multiplying the number S_{SF} of the access preamble signatures by a given positive number and dividing the multiplied value by the number P_{SF} of the PCPCHs;

calculating a specific coefficient 'n' satisfying the following equation

$$n*M_{SF}*S_{SF} <= i+j*S_{SF} < (n+l)*M_{SF}*S_{SF}$$

where i denotes an access preamble signature number and j denotes a channel allocation message number; and

selecting one PCPCH's number 'k' out of the PCPCHs unused in the UTRAN by satisfying the follmving eqilation

$$k = \{ [(i+n) \bmod S_{SF}]+j * S_{SF}\} \bmod P_{SF}.$$

In claim 17, the method as claimed in claim 15, wherein the PCPCH (k) is determined by satisfying following equation;

$$k = \{[(i+n) \bmod S_{SF}]+j*S_{SF} \bmod P_{SF}.$$

where, i is a number of the access preamble signature, the j is a number of the received channel assignment signature, the S_{SF} is a number of access preamble signatures assigned for the

maximum data rate determined by the access preamble signature, the P_{SF} representing number of PCPCHs assigned to support the maximum data rate, and the n indicates how many times a period of M_{SF}, which represent a minimum positive number out of positive numbers which are determined to have a remainder of '0' when multiplying the number S_{SF} by a given positive number and dividing the multiplied value by a number P_{SF}, has been repeated.

In claim 18, the method as claimed in claim 15, wherein the selecting step comprises the steps of:

determining a number P_{SF} of PCPCHs capable of supporting a maximum data rate required when the UE transmits data out of the unused PCPCHs;

determining a number S_{SF} of access preamble signatures available for the maximum data rate required when the UE transmits data;

determining a number T_{SF} of channel assignment signatures available for the maximum data rate depending on the number P_{SF} of the PCPCHs;

calculating a minimum positive number M_{SF} out of positive numbers which are determined to have a remainder of '0' when multiplying the number S_{SF} of the access preamble signatures by a given positive number and dividing the multiplied value by the number P_{SF} of the PCPCHs;

calculating a specific coefficient 'n' satisfying the following equation

$$n*M_{SF}*S_{SF} <= i+j*S_{SF} < (n+1)*M_{SF}*S_{SF}$$

where i denotes an access preamble signature number and j denotes a channel allocation message number; and

selecting one PCPCH's number 'k' out of the PCPCHs unused in the UTRAN by satisfying the following equation

$$k= \{[(i+n) \bmod S_{SF}]+j*S_{SF}\} \bmod P_{SF}.$$

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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